Virginia Flow Ecology Modeling

Developing flow-ecology models to assist in understanding the trade-offs between on and off stream uses, and within competing on-stream uses.

(presented by Robert Burgholzer
To WSPAC 3/29/2011)

Project Goals

- The development of consistent and repeatable, scientifically-based methods to identify the relative roles of land use, water supply operational rules, point source, and non-point source pollutants in negatively impacting aquatic beneficial uses.
- Providing for widespread communication and use of these scientific methods by regulators, localities and individuals.
- Develop science based allocations for multiple water resources. Move beyond single, minimum instream flows (MIF) by targeting a range of flows that allow us to preserve the highest number of beneficial uses.
- Empowering stakeholders and regulatory agencies to find synergies as well as conflicts between beneficial uses.

Project Components

- Virginia DEQ ‘s Baseline Flows and Hydrologic Alteration Models
- VCU’s INSTAR/MIBI - database of aquatic organisms and stream health metrics
- DGIF’s warm water stream database
- State of Tennessee data via MARIS data-sharing –project (for Clinch River basin)
- USGS Synthetic Hydrologic Models

Project Status / Outlook

- Currently assembling biological data sets for analysis.
- Will begin to identify data-rich and data-poor areas in April.
- Hydrology will be customized to create flow time series (baseline and current) for each area with sufficient data.
- December 2011 Completion Date Expected